

Claims

- [1] A drum type washing machine comprising:
a tub;
a drum installed in the tub to rotate about a horizontal axis;
a driving motor rotating the drum;
a key input unit receiving a washing instruction from a user;
a memory storing a reference quantity value and a reference eccentricity value;
a microcomputer controlling washing and rinsing operations in accordance with a procedure set by the user upon an input of a start command through the key input unit, the microcomputer controlling a preliminary spin drying operation to be selectively performed based on a comparison result obtained by comparing a measured laundry quantity and a measured eccentricity with the reference quantity value and the reference eccentricity value; and
a driving control unit controlling the driving motor in accordance with a control signal of the microcomputer.
- [2] The drum type washing machine according to claim 1, where the microcomputer controls a main spin drying operation to be carried out without performing the preliminary spin drying operation when the measured laundry quantity is smaller than the reference quantity value.
- [3] The drum type washing machine according to claim 1, where the microcomputer controls the preliminary spin drying operation and a main spin drying operation to be carried out in sequence when the measured laundry quantity is not smaller than the reference quantity value.
- [4] The drum type washing machine according to claim 3, where the preliminary spin drying operation is carried out at least one time.
- [5] A controlling method of a drum type washing machine, comprising:
performing washing and rinsing operations in accordance with a start command inputted by a user and a procedure selected by the user;
performing a laundry quantity measurement operation and an eccentricity measurement operation; and
controlling a preliminary spin drying operation to be selectively performed based on the measured laundry quantity and the measured eccentricity.
- [6] The controlling method according to claim 5, wherein the laundry quantity is the volume of laundry loaded in a drum and/or the weight of the laundry after the rinsing operation.
- [7] The controlling method according to claim 5, wherein the performing of the laundry quantity measurement operation includes determining whether the

- measured laundry quantity is smaller than a reference quantity value.
- [8] The controlling method according to claim 5, wherein the performing of the eccentricity measurement operation includes determining whether the measured eccentricity is smaller than a reference eccentricity value.
- [9] The controlling method according to claim 5, wherein the controlling of the preliminary spin drying operation is carried out, such that a main spin drying operation is carried out without performing the preliminary spin drying operation when the measured laundry quantity is smaller than a reference quantity value and the measured eccentricity value is smaller than a reference eccentricity value.
- [10] The controlling method according to claim 5, wherein the controlling of the preliminary spin drying operation is carried out, such that the preliminary spin drying operation and a main spin drying operation are performed in sequence when the measured laundry quantity is not smaller than a reference quantity value and the measured eccentricity value is smaller than a reference eccentricity value.
- [11] The controlling method according to claim 8, wherein the performing of the eccentricity measurement operation further includes:
if the measured laundry quantity is not smaller than the reference quantity value, repeating the eccentricity measurement operation after stopping a drum and accelerating the drum again.
- [12] The controlling method according to claim 11, wherein the repeating of the eccentricity measurement operation is carried out until the eccentricity becomes smaller than the reference eccentricity value.
- [13] The controlling method according to claim 5, wherein the preliminary spin drying operation is carried out at least one time and a main spin drying operation is carried out after the preliminary spin drying operation.
- [14] The controlling method according to claim 5, wherein the preliminary spin drying operation is carried out one or more times under an automatic control of a microcomputer based on the measured laundry quantity and the measured eccentricity.
- [15] A controlling method of a drum type washing machine, comprising:
performing washing and rinsing operations based on an inputted condition;
proceeding to a spin drying process right after the rinsing operation, and simultaneously performing a laundry quantity measurement operation;
performing an eccentricity measurement operation based on the measured laundry quantity;
if the measured laundry quantity is smaller than a reference quantity value and

the measure eccentricity is smaller than a reference eccentricity value,
performing a main spin drying operation without performing a preliminary spin
drying operation; and

terminating the spin drying process after the main spin drying operation.

[16] The controlling method according to claim 15, further comprising, prior to
terminating the spin drying process:

if the measured laundry quantity is not smaller than the reference quantity value
and the measure eccentricity is smaller than the reference eccentricity value,
performing the preliminary spin drying operation and the main spin drying
operation in sequence.

[17] The controlling method according to claim 15, further comprising, after the
performing of the eccentricity measurement operation:

if the measured eccentricity is not smaller than a reference eccentricity value,
repeating the eccentricity measurement operation after stopping and reacceleratin
g a drum of the drum type washing machine until the eccentricity becomes
smaller than the reference eccentricity value.